

*Here I lay a-cryin'  
Somethin' is on my mind  
It's midnight, I wonder where the nurse can be?*

*TB's got me, all my friends have thrown me down  
TB's got me, and all my friends have thrown me down  
But they treated me so nice, when I was able to run around*

*Oh, my poor lungs are hurtin' me so  
Mmmm, my poor lungs are hurtin' me so  
I don't get no peace or comfort, no matter where I go*  
Victoria Spivey. *TB's Got Me*<sup>1</sup>

***The WISCONSIN EPI EXPRESS provides a regular update on communicable disease issues of importance in our state and is intended primarily for participants in the public health surveillance system. Please let us know if the topics covered are on target or if there are others that we should be addressing.***

***Thank you.***

***Akan Ukoeninn, MPH, Director, Bureau of Communicable Diseases and Preparedness***

## **In This Issue:**

- 1 TB Education & Training Resources**
- 2 Report from the TB Educational Training Network (TB-ETN) Conference**
- 3 Tubes with sodium heparin (the “BD sodium heparin tubes”) and QuantiFERON®-TB Gold products**
- 4 Changes in TB and Refugee Health Operations and Staffing**
- 5 Errata for TB Guideline**
- 6 Supreme Court to Hear Public Health Confinement Case**
- 7 Cluster of allergic reactions following Tubersol® administration**
- 8 New Guidelines for Pediatric Use of Rotavirus Vaccine**
- 9 Updated Guidelines on Diagnosis, Treatment of Lyme Disease**
- 10 CDC publishes revised recommendations for HIV testing in health care settings**
- 11 Survey of Employee Influenza Vaccination Rates and Policies in Wisconsin Hospitals and Nursing Homes**

## **1. TB Education & Training Resources**

The TB Education & Training Resources Website ([www.findtbresources.org](http://www.findtbresources.org)) includes a searchable database of TB education and training resources. You can search for materials by fields such as format and language. CDC's Division of Tuberculosis Elimination publishes a monthly e-newsletter which includes links to the resources listed below. The newsletter is <http://www.findtbresources.org/scripts/index.cfm?FuseAction=Newsletter>

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<sup>1</sup> This is one of several songs Victoria Spivey recorded about loneliness and suffering from TB infection in the 1920' and 30's, before the introduction of therapy. Spivey never had tuberculosis herself.

## 2. Report from the TB Educational Training Network (TB-ETN) Conference

*(The following was submitted by Ann Sabatka, public health nurse from the Brown County Health Department.)*

I went to the social marketing breakout session where I received a social marketing guidebook from University of South Florida. Although it was geared towards obesity, people are able to use it for TB. I also received several CD's from [Francis Curry center](#): Treating Latent Tuberculosis Infection in High-Risk Populations, Developing and Presenting TB Control Training Courses Toolbox and B Notification Assessment and Follow-up Toolbox and Drug-Resistant Tuberculosis: A Survival Guide for Clinicians. Toronto Public Health had a CD on [multi-language TB resources](#). There were some other brochures from Toronto that I picked up. I also have on order a "TB rap" CD from the Chicago Southside Project. You may contact Pamela Lamptey with the Chicago Department of Public health 312-745-4123 for more information.

The session that really had an impact on me was "The Human Face of TB" by Romel Lacson who worked at CDC in the past. His wife Claudia and unborn child died as a result of TB meningitis in 2004. He put his story to music and song. He is now the director of the [TB photovoice](#) which is just starting. The goals of the TB PhotoVoice Project are:

- To provide local people around the world with a voice to articulate best practices and obstacles toward TB elimination;
- To assist local communities in developing strategies and tools to disseminate this knowledge;
- And to raise media awareness of the toll tuberculosis exacts on upon millions of lives each year

A poster from Toronto was geared to physicians. [Think TB Think Isolation](#). It asks if your patient has..... Then next steps..... And then it is your call..... It reminded me of the outreach to get the diabetes guidelines in place.

The workshop also stressed the importance of asking what your target audience wants and

then gearing your information and materials that way. What you want and feel is important is not necessarily important to them (something I knew but needed to be reminded.) It also emphasized the educational process: assess, plan, implement, evaluate, change.

There was also a Jeopardy format to integrate TB information in an educational program. Find an example on the web at <http://medicine.ucsd.edu/faculty/catanzaro/lectures.htm>

It was also nice to hear about local projects. Nashville made a TB video at very little to no cost. This was able to meet their community needs. Chicago increased community awareness about TB on their south side. (They also had a slogan painted on park benches.) Local projects can make a difference and there are many more out there.

It was nice to bring back material to help me in my practice that I could go into a group setting and talk to them about TB to help with my contact investigation or to help explain TB to people with infection. It also will assist me in dealing with the "difficult" person. The conference also reminded me that our goals and issues are universal but yet unique. I think as the number of TB cases becomes less the number of TB complications will increase.

The TB Education and Training Network (TB ETN) was formed to bring TB professionals together to network, share resources, and build education and training skills. Currently, membership includes representatives from TB programs, correctional facilities, hospitals, nursing homes, federal agencies, universities, the American Lung Association, Regional Training and Medical Consultation Centers, and other U.S. and international organizations interested in TB education and training issues. For more information about the TB Educational Training Network, visit URL <http://www.cdc.gov/nchstp/tb/TBETN>. Membership is free.

### 3. Tubes with sodium heparin (the “BD sodium heparin tubes”) and QuantiFERON®-TB Gold products

Some users of QuantiFERON® have experienced a significant increase in their rate of indeterminate results due to a high Nil value (Nil values greater than or equal to 0.7 IU/mL) when specimens have been collected using Sodium Heparin Vacutainer® tubes from Becton-Dickinson. This increase is significantly in excess of the rate quoted in the QuantiFERON-TB Gold package insert.

Cellestis (the manufacturer of QuantiFERON®) has investigated the matter and reports that the problem is related to some lots of BD Sodium Heparin tubes. Not all lots of BD Sodium Heparin tubes are problematic; however Cellestis is working with BD to better understand the issue and work toward a resolution. This in no way reflects any errors or quality defects in the BD products, rather it is an occasional incompatibility for use in QuantiFERON®-TB Gold. In the meantime,

Cellestis is recommending that **QuantiFERON®-TB Gold product users switch to Lithium Heparin blood collection tubes**, from BD or other suppliers.

While we are recommending that QuantiFERON®-TB Gold product users switch to Lithium Heparin blood collection tubes, if a change in anticoagulant poses great difficulty, it is recommended that the user change to a different batch or brand of Sodium Heparin blood collection tube. Cellestis has not received reports of any problems with Sodium Heparin glass tubes.

If you have recently experienced elevated rates of high Nil responses or have any questions regarding this matter please contact Cellestis Technical Services at 800-519-4627.

### 4. Changes in TB and Refugee Health Operations and Staffing

The TB and Refugee Health Programs have made adjustments in response to staffing changes detailed below.

- We have increased our use of fax as a means of communication. Some faxes **REQUIRE ACTION BY THE LOCAL HEALTH DEPARTMENT** before a medication request is approved.
- Lab reports for TB cases are being faxed to local health departments, rather than mailed. Local health departments submitting specimens to the State Lab may request lab reports be faxed directly to them from the lab by calling Customer Service at 800-862-1013 and asking for a "Fax Agreement form."
- Approved medication requests will be faxed to the local health department, along with blank copies of the refill request and therapy follow-up forms. Approved medication requests will have a patient number indicated in the bottom right hand corner on the form. If you prefer to print copies of the refill request and therapy follow-up forms locally, you may do so at URL

<http://dhfs.wisconsin.gov/tb/resources/forms.htm> Be sure to write the patient number at the top of the form before submitting it to the TB Program.

- Medication request forms with missing information will be faxed to the local health department indicating the information needed. The local health department will be responsible for obtaining the information and returning the corrected form to the TB Program for medication processing. Medication requests that have NOT been approved will NOT have a patient number and will be accompanied by a form letter specifying what action is necessary. You may also wish to print the handy reference "Outline for Case Management - Person with Latent TB Infection - LTBI" located at URL <http://dhfs.wisconsin.gov/tb/resources/guidelines/ltbimgmt.pdf> as a reference.

**June Doyle**, TB Nurse Consultant and **Tanya Oemig**, TB Program Director remain available for consultation. June can be reached at 608-266-9452 and Tanya can be reached at 608-261-6319.

**Paul Kellner** is acting as Refugee Health Coordinator. He is serving for a limited term, approximately 25 hours per week for the next several months. He has been working in Refugee Health since last January, first as a student intern and this summer as a temp agency employee. Paul is a graduate student working toward his Master's degree in Life Sciences Communication. His duties are primarily related to refugee health, but he also plays a supportive role in the Tuberculosis

Program. Paul can be reached at 608/267-3733

**Nancy Dupont** has retired after many faithful years of service to the TB Program. We hope to have the position filled soon, but federal budget cuts to state TB programs have necessitated the position be filled at only half time. The TB Program is strategizing about the best way to function with only half time program support.

**Savitri Tsering** is expected to return to the TB and Refugee Health programs in January. She also will be working half time. The TB Program will proceed with filling a vacant half-time position to work opposite Savitri.

## 5. Errata for TB Guideline

An Errata for the "Guidelines for Preventing the Transmission of Mycobacterium Tuberculosis in Healthcare Settings, 2005" has been posted on the Division of Tuberculosis Elimination (DTBE) website: <http://www.cdc.gov/nchstp/tb/>

A list of additional Frequently Asked Questions (FAQs) is currently undergoing CDC clearance and will also be posted on this site (in addition to the FAQs that start on p.80 of the guidelines).

## 6. Supreme Court to Hear Public Health Confinement Case

The Wisconsin Supreme Court will hear oral arguments in the case of City of Milwaukee v. Ruby Washington in the afternoon of November 1. The American Civil Liberties Union and the Wisconsin Association of County Corporation Counsels are included as interested parties.

The questions before the court are

- Did the circuit court abuse its discretion in confining the respondent to county jail facilities for tuberculosis treatment under Wis. Stat. § 252.07(9) and in rejecting the alternative of guarded placement in a hospital because of the associated costs?
- Was remedial contempt available as a sanction for the circuit court to incarcerate the respondent for tuberculosis treatment until health authorities certified that the respondent was cured?

This case is relevant to the control of all communicable diseases. In addition to statutes specifying isolation and confinement of people with infectious tuberculosis, Wis. Stat. § 252.06 (6) (a) states "When the local health officer deems it necessary that a person be quarantined or otherwise restricted in a separate place, the officer shall remove the person, if it can be done without danger to the person's health, to this place." The "place" is not specified in statute, to give the local health officer the ability to determine the appropriate location based on the current situation. The Supreme Court decision will impact on future use of a correctional facility as a place of isolation, quarantine, or confinement.

The afternoon session begins at 1:30. Oral arguments may be listened to on-line as they occur (<http://www.wicourts.gov/opinions/sliveorals.htm>) and are posted to the court's website for listening at any time. The case number (for accessing the audio) is 05AP3141.

## 7. Cluster of allergic reactions following Tubersol administration

A cluster of allergic reactions following tuberculin skin testing with Tubersol® Lot No. C2316AA has been reported to Health Canada's Health Products and Food Branch and the manufacturer. While there is always a risk, a cluster is unusual. Go to [http://www.hc-sc.gc.ca/dhp-mps/alt\\_formats/hpfb-dgpsa/pdf/medeff/tubersol\\_hpc-cps\\_e.pdf](http://www.hc-sc.gc.ca/dhp-mps/alt_formats/hpfb-dgpsa/pdf/medeff/tubersol_hpc-cps_e.pdf)

The cluster of adverse reactions occurred the week of October 9, 2006 in two clinical settings.

In one setting, 3 individuals of 28 who received a second-step TST developed the following while still in clinic: (1) pinpoint red rash on same arm, swollen finger and red palm, (2) similar signs, (3) slight rash; numbness in finger and arm radiating up to back of head; lip tingling; clearing of throat as is observed with allergic reactions; treated with epinephrine and prednisone; recovered.

In the second setting, 1 individual with a previous history of anaphylaxis to vaccine felt anaphylaxis coming on and was treated with an epi-pen; recovered.

While the severity of reactions is similar to others reported to the Canadian Adverse Drug Reaction Monitoring Program on an ongoing basis, the clustering is the unusual feature in this situation.

We are not aware of any similar incidents in the United States. However, if you have seen an increase in the incidence of allergic reactions following Tubersol® administration within the past 2 months, please notify the manufacturer (Sanofi-Pasteur 1-888-621-1146), FDA MedWatch (1-800-FDA-1088 or <http://www.fda.gov/medwatch/report/hcp.htm>), and the TB Program at 608-261-6319.

## 8. New Guidelines for Pediatric Use of Rotavirus Vaccine

The Advisory Committee on Immunization Practices (ACIP) has issued recommendations for treating and preventing rotavirus gastroenteritis in children and infants using rotavirus vaccine. The new guidelines are published in the August 11 issue of the *Morbidity and Mortality Weekly Report*.

"Rotavirus is the most common cause of severe gastroenteritis in infants and young children worldwide," write Umesh D. Parashar, MBBS, and colleagues from the National Center for Immunization and Respiratory Diseases. "Rotavirus gastroenteritis results in relatively few childhood deaths in the United States (approximately 20 - 60 deaths per year among children aged < 5 years). However, nearly every child in the United States is infected with rotavirus by age 5 years, and the majority will have gastroenteritis, resulting in approximately 410,000 physician visits, 205,000 - 272,000 emergency department (ED) visits, and 55,000 - 70,000 hospitalizations each year and direct and indirect costs of approximately \$1 billion."

In February 2006, a live, oral, human-bovine reassortant rotavirus vaccine (*RotaTeq*®, Merck & Co) was licensed by the US Food and Drug Administration (FDA) for use among US infants. The ACIP recommends routine vaccination of US infants with 3 doses of this rotavirus vaccine given by mouth at ages 2, 4, and 6 months. The first dose should be administered between ages 6 to 12 weeks; the following 2 doses should be administered at 4- to 10-week intervals; and all 3 doses should be given by age 32 weeks.

Rotavirus vaccine can be given together with other childhood vaccines. The rotavirus vaccine is contraindicated for infants with a serious allergic reaction to any vaccine component or to a previous vaccination.

Although rotavirus infects nearly all children by age 5 years, severe, dehydrating gastroenteritis affects primarily children aged 3 to 35 months. Rotavirus gastroenteritis may range from mild, watery diarrhea of short duration to severe diarrhea with vomiting and fever, resulting in dehydration with shock, electrolyte imbalance, and even death. Up to

one third of patients have a fever with a temperature higher than 102°F (> 39°C).

Rotaviruses are transmitted primarily by the fecal-oral route, both through close person-to-person contact and through fomites, as well as by fecally contaminated food and water and respiratory droplets.

Confirmation of rotavirus infection by laboratory testing of stool specimens is necessary for reliable rotavirus surveillance and can facilitate clinical decisions about the use of antimicrobial agents. The most widely available testing method is antigen detection in the feces by enzyme immunoassay. Serologic methods detecting a rise in serum antibodies have also been used to confirm recent infections.

The guidelines note several reasons to adopt vaccination of infants as the primary public health measure for prevention of severe rotavirus disease in the United States.

"First, rates of rotavirus illness among children in industrialized and less-developed countries are similar, indicating that clean water supplies and good hygiene have little effect on virus transmission; therefore, further improvements in water or hygiene are unlikely to have a substantial impact on disease prevention," the authors write. "Second, in the United States, a high level of rotavirus morbidity continues to occur despite available therapies... Third, studies of natural rotavirus infection indicate that initial infection protects against subsequent severe gastroenteritis, although subsequent asymptomatic infections and mild disease might still occur."

Breast-fed infants and infants with transient, mild illnesses with or without low-grade fever can receive rotavirus vaccine. Rotavirus vaccine can be administered together with diphtheria and tetanus antigens in the diphtheria, tetanus, and pertussis (DTaP) vaccine, *Haemophilus influenzae* type b conjugate vaccine, inactivated poliovirus vaccine, hepatitis B vaccine, and pneumococcal conjugate vaccine without interfering with the immune response.

Precautions involving rotavirus vaccination include considering the specific benefits and risks in the following situations: altered immunocompetence; moderate-to-severe illness, including acute gastroenteritis; chronic gastrointestinal disease; and history of intussusception.

Other special patient groups mandating clinical judgment as to whether rotavirus vaccine should be administered include premature infants (aged < 37 weeks), infants living in households with immunocompromised persons, infants living in households with pregnant women, regurgitation of vaccine, and children hospitalized after vaccination. However, infants living in households with pregnant women and immunocompromised persons and clinically stable preterm infants being discharged from hospital can receive the vaccine. Future research should address these issues.

"The success of a rotavirus vaccination program depends on the acceptance and enthusiasm of physicians and other healthcare providers who care for children and caretakers of infants," the authors note. "In light of the experience with the withdrawal of RRV-TV [rhesus-based tetravalent rotavirus] vaccine because of its association with intussusception, some health-care providers and parents might have concerns about vaccination with current rotavirus vaccine."

"Vaccination program personnel will benefit from education about rotavirus disease and rotavirus vaccine," the authors conclude. "Parental education on rotavirus gastroenteritis and on the vaccine will be essential to establish and maintain public confidence in this vaccine and to avoid confusion caused by cases of gastroenteritis in early childhood resulting from nonrotaviral etiologies and not preventable by rotavirus vaccine."

Individuals from the FDA and Merck & Co, the maker of the rotavirus vaccine, reviewed and contributed to sections of this report.

*Morb Mortal Wkly Rep.* 2006;55(RR-12):1-11.

## 9. Updated Guidelines on Diagnosis, Treatment of Lyme Disease

ALEXANDRIA, VA -- October 2, 2006 -- In response to growing concern and confusion about Lyme disease, the Infectious Diseases Society of America (IDSA) has updated its Clinical Practice Guidelines on the disease, in order to provide guidance to physicians and patients based on the latest scientific evidence. The guidelines were originally published in 2000.

The guidelines are now available on the IDSA Web site at:

(<http://www.journals.uchicago.edu/CID/journal/issues/v43n9/40897/40897.html>) and will be published in the Nov. 1 edition of the journal, *Clinical Infectious Diseases*.

Significant changes in the updated version, noted in an IDSA press release, include:

- The addition of information on human granulocytic anaplasmosis (HGA) and babesiosis, two diseases transmitted by the same tick that transmits Lyme disease;
- Recommendations of a single dose of an antibiotic for certain high-risk patients who have been bitten by a tick but do not have symptoms of Lyme disease;
- Expanded discussion and definition of so-called "chronic" or post-Lyme syndromes.

Lyme disease is caused by an infection with the bacteria *Borrelia burgdorferi*. This infection is principally transmitted by the black-legged deer tick (*Ixodes scapularis*) that typically feeds on small mammals, birds and deer but may also feed on cats, dogs and humans. Although the disease has been reported in nearly all states, the majority of cases are concentrated in the Mid-Atlantic and northeast

states. Other regions in the United States with significant numbers of cases include Wisconsin, Minnesota and northern California.

### **Human Granulocytotropic Anaplasmosis (HGA) and Babesiosis**

Although Lyme disease is the most common tick-borne infection in North America and Europe, the updated guidelines now also contain information on two other tick-related diseases, HGA and babesiosis. HGA is a tick-associated disease caused by a species of bacteria called *Anaplasma phagocytophilum*. The most common symptoms are headache, fever, chills, muscle pain and fatigue. Babesiosis is a parasitic infection which affects the red blood cells, resembling malaria; it is also transmitted through the bite of a deer tick. In the United States, the disease usually does not cause symptoms in healthy individuals and is most likely to affect those who are elderly or have compromised immune systems.

### **Treatment for Lyme Disease**

Although routine preventive antibiotic administration is not recommended for individuals with tick bites and no symptoms of disease, one substantive change in IDSA's treatment recommendations is that some selected, high-risk tick bites may be treated with a single dose of the antibiotic doxycycline for people who are eligible for the drug. Eligibility criteria for preventive Lyme disease treatment with doxycycline include:

- The attached tick can be reliably identified as an *Ixodes scapularis* tick that is estimated to have been attached for 36 hours or longer;
- Preventive treatment can be started within 72 hours of the time the tick was removed;
- Ecologic information indicates that the local rate of infection of these ticks with *B. burgdorferi* bacteria is 20% or greater.
- Whether use of antibiotic prevention after a tick bite will reduce the incidence of HGA or babesiosis is not known.

Most patients who develop Lyme disease are cured with a single course of 10-28 days of antibiotics, depending on the stage of their illness. Occasionally a second course of treatment is necessary. More prolonged antibiotic therapy is not recommended.

## "Chronic" or Post -Lyme Disease Syndromes

A small number of patients report a variety of non-specific symptoms such as generalized pain, joint pain or fatigue following an episode of Lyme disease that has been appropriately treated with antibiotics. The updated IDSA guidelines contain greater detail in the discussion of post-Lyme disease syndromes, and conclude that objective evidence of prior *B. burgdorferi* infection must be part of any acceptable definition of these syndromes.

As in the past, the guidelines do not recommend ongoing antibiotic therapy for those with chronic symptoms who have completed the recommended initial course of treatment for Lyme disease.

"After a thorough review of the literature, the panel concluded there is no convincing biologic evidence for symptomatic, chronic *Borrelia burgdorferi* infection after completion of the recommended treatment for Lyme disease," the guidelines state.

Furthermore, long-term antibiotic therapy may be dangerous and it also can lead to complications for the patient such as blood stream catheter infection (for those on intravenous antibiotics) and *Clostridium difficile* colitis (a potentially severe infection of the bowel). Long-term antibiotic therapy may also foster the development of drug-resistant superbugs that are difficult to treat.

## 10. CDC publishes revised recommendations for HIV testing in health care settings

The federal Centers for Disease Control and Prevention (CDC) recently published revised recommendations for HIV testing in health care settings. The recommendations are intended for health care providers in public and private health care settings and do not modify current guidelines for persons at high risk who seek or receive HIV counseling, testing, or referral in nonclinical settings (e.g., community-based organizations, outreach settings, or mobile vans).

The objectives of the revised recommendations are to

- increase HIV screening of patients, including pregnant women, in health-care settings;
- foster earlier detection of HIV infection;
- identify and counsel persons with unrecognized HIV infection and link them to clinical and prevention services; and
- further reduce perinatal transmission of HIV in the United States.

Major revisions from CDC's previously published HIV testing guidelines are as follows:

### For patients in all health-care settings

- HIV screening is recommended for patients in all health-care settings after the patient is notified that testing will be performed unless the patient declines (opt-out screening).
- Persons at high risk for HIV infection should be screened for HIV at least annually.
- Separate written consent for HIV testing should not be required; general consent for medical care should be considered sufficient to encompass consent for HIV testing. (See "NOTE" below.)
- Prevention counseling should not be required with HIV diagnostic testing or as part of HIV screening programs in health-care settings.

For pregnant women

- HIV screening should be included in the routine panel of prenatal screening tests for all pregnant women.
- HIV screening is recommended after the patient is notified that testing will be performed unless the patient declines (opt-out screening).
- Separate written consent for HIV testing should not be required; general consent for medical care should be considered sufficient to encompass consent for HIV testing. (See “NOTE” below.)
- Repeat screening in the third trimester is recommended in certain jurisdictions with elevated rates of HIV infection among pregnant women.

NOTE: Despite CDC’s recommendations suggesting that separate written consent not be required and that general consent for medical care is sufficient for HIV testing, Wisconsin law (s. 252.15) requires that written informed consent be obtained for HIV testing. The CDC recommendations are guidelines and consequently do not replace or pre-empt existing Wisconsin statute.

The CDC *Revised Recommendations for HIV Testing of Adults, Adolescents, and Pregnant Women in Health-Care Settings* were published in the September 22, 2006 issue of the *Morbidity and Mortality Weekly Report (MMRW)* [Vol. 55(RR14);1-17] and are located in the CDC website at <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5514a1.htm>

## **11. Survey of Employee Influenza Vaccination Rates and Policies in Wisconsin Hospitals and Nursing Homes**

In February, 2006 the Division of Public Health conducted a survey of all Wisconsin general acute care hospitals and all nursing homes regarding employee influenza vaccination rates and characteristics of vaccination programs. The following is a summary of the findings.

- 108 of 140 (77%) hospitals and 302 of 405 (75%) nursing homes responded to the survey. 103 (95%) hospitals and 269 (89%) nursing homes provided information on the percentage of employees vaccinated.
- The median employee vaccination rate in hospitals was 58% (range 25-91%); the median rate in nursing homes was 50% (range 5-100%).
- Seventy-six percent of hospitals and 56% of nursing homes vaccinated at least 50% of employees. Five percent of hospitals and 9% of nursing homes vaccinated at least 80% of employees.
- Most facilities incorporated recommended practices for optimizing employee vaccine use. Only 14% of hospitals and 14% of nursing homes required employees deferring vaccination to sign declination statements.
- Among hospitals: mean vaccination rates were higher in those requiring signed declination forms (67% vs. 57%, P<0.005) and in those reporting no vaccine supply shortages or delays (60% vs. 54%, P<0.05). Hospitals that reached at least an 80% employee vaccination rate were 11 times more likely to have used declination forms than hospitals that vaccinated less than 80% of employees.
- Among nursing homes: mean vaccination rates were higher in those requiring signed declination forms (63% vs. 50%, P<0.001), provided education (62% vs. 39%, P<0.05), and offered the vaccine free (53% vs. 30%, P<0.001). Nursing homes that reached at least a 50% employee vaccination rate

were 11 times more likely to have provided the vaccine free to employees, five times more likely to have offered education, and four times more likely to have used declination forms than nursing homes that vaccinated less than 50% of employees. Those vaccinating at least 80% of employees were three times more likely to have used declination forms.

- The mean vaccination rate was lower in hospitals with vaccine supply delays or shortages but was still above the 50% level. There were no significant differences

in vaccination rates of nursing homes with vaccine supply problems compared to those with no vaccine supply shortages or delays.

The data are limited by the similarity of all facility employee vaccination programs and because other important features of vaccination programs such as administrative support and monitoring vaccination rates were not considered. Furthermore, details about differences in educational methods or promotional messages were not investigated.

### **Telephone Reporting of Unusual Disease Occurrences**

*Occurrences of diseases that are uncommon or atypical in Wisconsin, and outbreaks or clusters of disease which are identified, should be reported by phone as soon as possible, to 608-258-0099. Reports may be made to this number on a 24/7 basis, but please do not use it for normal and routine disease reporting*

#### **To be added to or removed from the distribution list contact:**

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